

is the effect of the general motion to which the surface of the ocean is subjected at its western extremity. We shall give but a very succinct account of the arm of the Gulf-stream, which in the 45th and 50th degrees of latitude, near the bank called the Bonnet Flamand, runs from south-west to north-east towards the coasts of Europe. This partial current becomes very strong at those times when the west winds are of long continuance: and, like that which flows along the isles of Ferro and Gomera, it deposits every year on the western coasts of Ireland and Norway the fruit of trees which belong to the torrid zone of America. On the shores of the Hebrides, we collect seeds of *Mimosa scandens*, of *Dolichos urens*, of *Guilandina bonduc*, and several other plants of Jamaica, the isle of Cuba, and of the neighbouring continent. The current carries thither also barrels of French wine, well preserved, the remains of the cargoes of vessels wrecked in the West Indian seas. To these examples of the distant migration of the vegetable world, others no less striking may be added. The wreck of an English vessel, the *Tilbury*, burnt near Jamaica, was found on the coast of Scotland. On these same coasts are sometimes found various kinds of tortoises, that inhabit the waters of the Antilles. When the western winds are of long duration, a current is formed in the high latitudes, which runs directly towards east-south-east, from the coasts of Greenland and Labrador, as far as the north of Scotland. Wallace relates, that twice (in 1682 and 1684), American savages of the race of the Esquimaux, driven out to sea in their leathern canoes, during a storm, and left to the guidance of the currents, reached the Orkneys. This last example is the more worthy of attention, as it proves at the same time how, at a period when the art of navigation was yet in its infancy, the motion of the waters of the ocean may have contributed to disseminate the different races of men over the face of the globe.

In reflecting on the causes of the Atlantic currents, we find that they are much more numerous than is generally believed; for the waters of the sea may be put in motion by an external impulse, by difference of heat and saltness, by the periodical melting of the polar ice, or by the inequality of evaporation, in different latitudes. Sometimes several of these causes concur to one and the same effect, and some-